

# The Undercount of Young Children in the Decennial Census

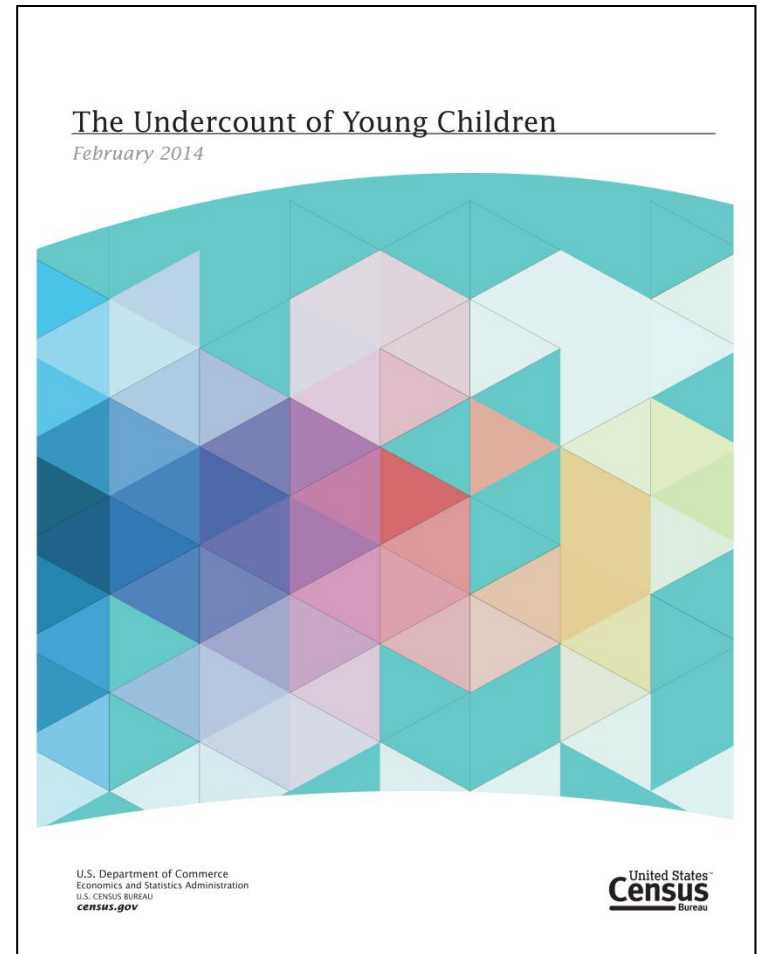
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# The Undercount of Young Children in the Decennial Census

## Introduction

- Persistent undercount of young children, ages 0 to 4, in the decennial census
- 4.6% net undercount in 2010, nearly 1 million young children
- Recent work on the issue at the Census Bureau
  - In 2013 a Census Bureau task force reviewed available information on the undercount of young children and produced a report with research recommendations
  - A team is currently conducting several research projects to try to answer key questions about why the census misses young children



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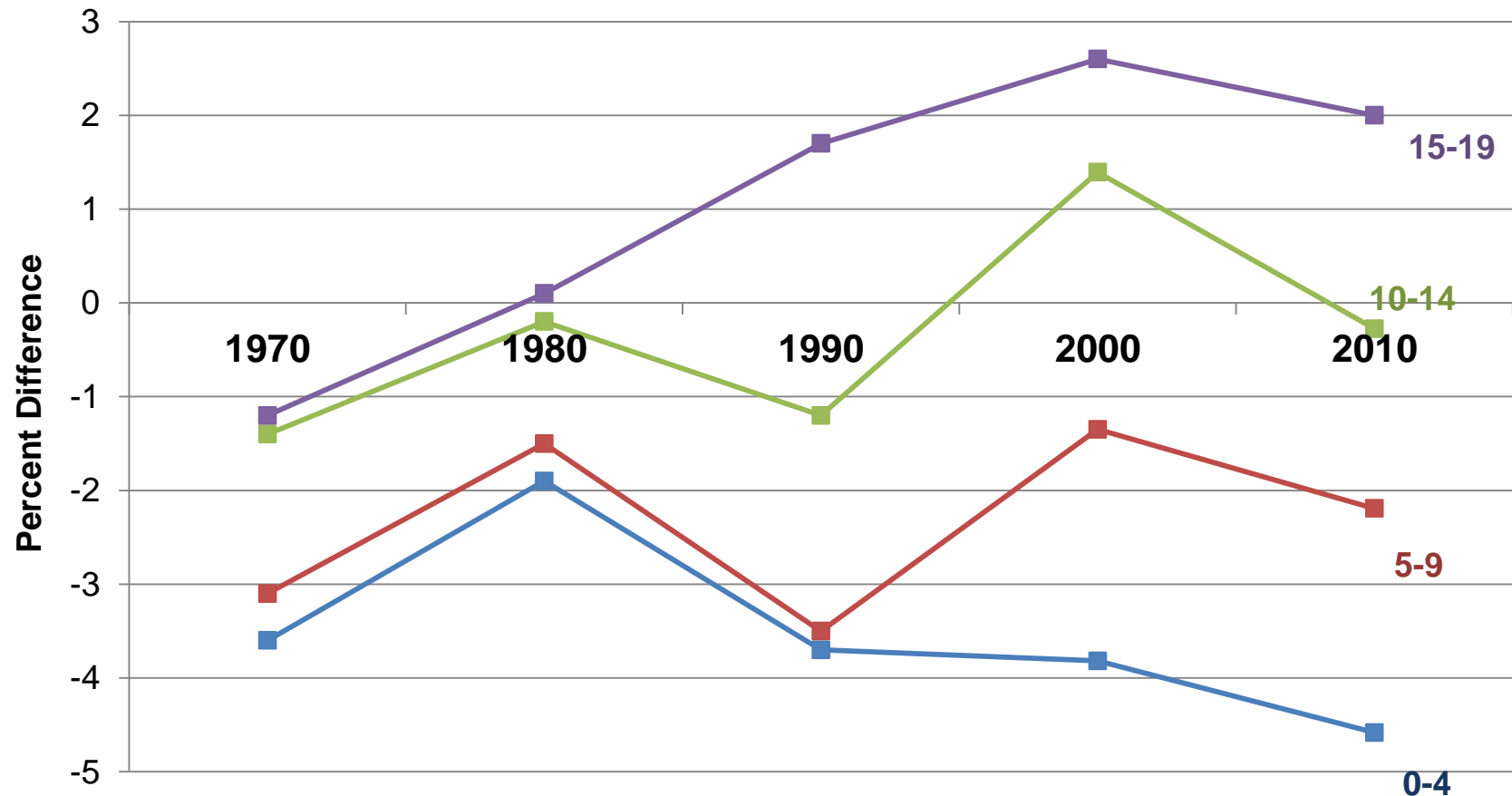
## Background

- 2010 Census coverage results from Demographic Analysis
  - Demographic Analysis estimated a net overcount of 0.1 percent for the total population in 2010
  - While adults were over counted, children under 18 had a 1.7 percent net undercount
  - Children under the age of 5 were especially likely to be missed in the 2010 Census, with a net undercount of 4.6 percent

# The Undercount of Young Children in the Decennial Census

## Background

- Net undercount estimates from Demographic Analysis 1970 to 2010



Source: 1970, 1980, 1990, 2000, and 2010 Census and Demographic Analysis.

# The Undercount of Young Children in the Decennial Census

## Background

- Net Coverage of young children by race and Hispanic origin – 2010 Census

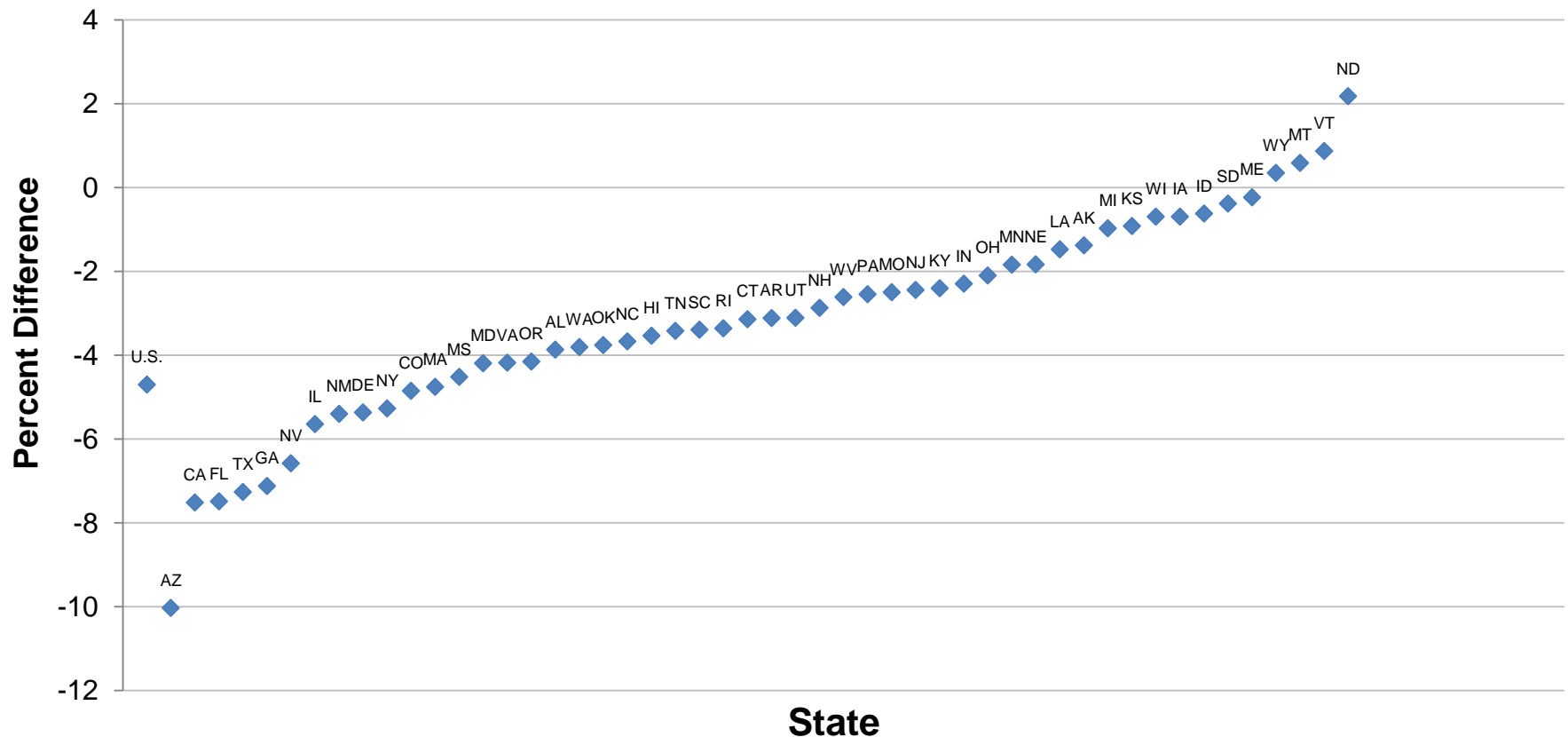
Race/Hispanic Origin	Net Coverage Error of Young Children
All Races	-4.6
Black alone or in combination	-6.3
Not Black alone or in combination	-4.2
Hispanic	-7.5
Non-Hispanic	-3.6

Source: O'Hare 2014, using 2010 Demographic Analysis Estimates

# The Undercount of Young Children in the Decennial Census

## Background

- Percent difference between the census and vintage 2010 population estimate for young children by state



Source: 2010 Census and Vintage 2010 Population Estimates.

# The Undercount of Young Children in the Decennial Census

## Background

- Survey coverage ratios

Census Survey	Age Group			
	0-4	5-9	10-17	18+
American Community Survey (ACS)	0.89	0.97	0.98	0.95
Current Population Survey (CPS)	0.82	0.92	0.90	0.88
Survey of Income and Program Participation (SIPP)	0.80	0.88	0.86	0.86

Source: March 2009 Base Current Population Survey; Survey of Income and Program Participation; 2009 single-year American Community Survey, special tabulation

# The Undercount of Young Children in the Decennial Census

## Background

- Census net undercount for young children in other countries

Country and Year	Net Undercount Age 0-4
Australia 2011	-1.2
Canada 2011	-3.4
England and Wales 2011	-9.6
South Africa 2011	-15.1
Japan 2000	-2.3
South Korea 2000	-3.6

Source: O'Hare 2015



# The Undercount of Young Children in the Decennial Census

## Background

- Importance of this issue
  - Commitment to a complete and accurate census
  - Goal: Once, only once, and in the right place
- Implications of the undercount
  - Political representation
  - Federal funding for programs including:
    - Temporary Assistance for Needy Families
    - Special education grants
    - Head Start
    - National School Lunch Program
  - School planning

# The Undercount of Young Children in the Decennial Census

## Research Team Projects

- Research team conducting several investigations
  - Estimating Census Omissions
  - Census Coverage Measurement (CCM)
  - Coverage of Young Mothers
  - Coverage Follow-up (CFU)
  - Complex Household Typology
  - Subnational Population Estimates

# The Undercount of Young Children in the Decennial Census

## Census Coverage Measurement

- CCM included an independent enumeration of a sample of blocks that was matched to the Census
- This project studies the characteristics of the children that did not match to the census. These nonmatches include:
  - Children that the census missed
  - Children that could not be matched due to incomplete data
  - Children enumerated in the census outside of the CCM search area
- This analysis provides individual-level data that helps us understand the characteristics associated with coverage errors

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## Census Coverage Measurement

- Nonmatch Rates for Young Children by Relationship to Householder

Relationship to Householder	Nonmatch Rate for Children 0-4	SE
Biological child	9.8	0.3
Adopted child	6.8	1.8
Stepchild	17.9	3.0
Grandchild	15.6	0.9
Other Relative	22.1	2.0
Unrelated child	24.5	2.7
<b>Total</b>	<b>11.1</b>	<b>0.3</b>

Source: 2010 Census Coverage Measurement

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## Census Coverage Measurement

- Types of Young Children Nonmatches - Nonmovers

Type of Nonmatch	Percent of All Nonmatches	SE
HU nonmatch	15.5	1.6
HU match	84.4	1.6
Child & whole HH nonmatch	46.0	1.8
Child & another HH member nonmatch	22.2	1.4
Child is only nonmatch	16.2	1.1
<b>Total Nonmover Nonmatches</b>	<b>100.0</b>	

Source: 2010 Census Coverage Measurement

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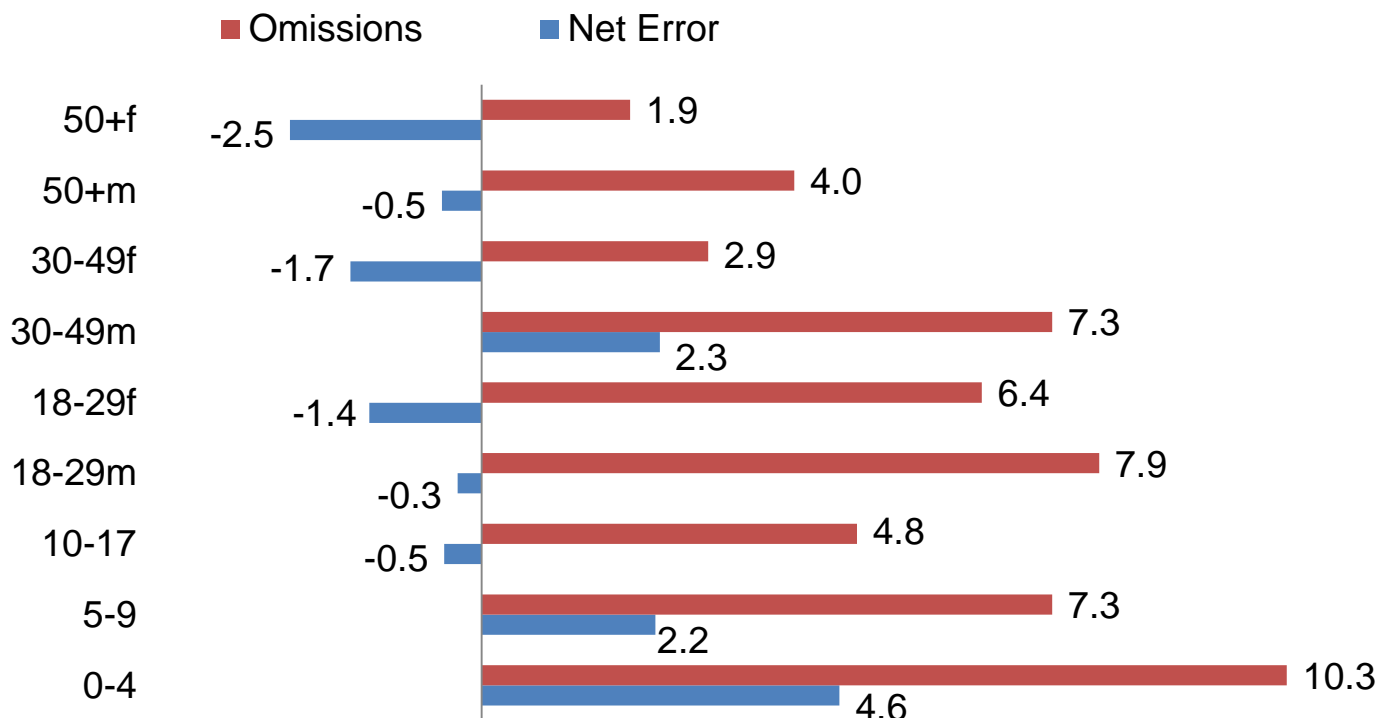
## Estimating Census Omissions

- DA estimates total population & *net* coverage error
- The CCM program estimates components of census coverage (correct and erroneous enumerations)
- We combined DA estimates of total population and CCM estimates of correct enumerations to estimate census omissions by age
- We also analyzed CCM data on whole person imputations and erroneous enumerations by age

# The Undercount of Young Children in the Decennial Census

## Estimating Census Omissions

- Omission Rates and Net Coverage Error Rates by Age



Source: Revised 2010 DA Estimates (released May 2012) Middle series Tables 3, 4 & 5;  
2010 Census Coverage Measurement estimates

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## Census Coverage Followup

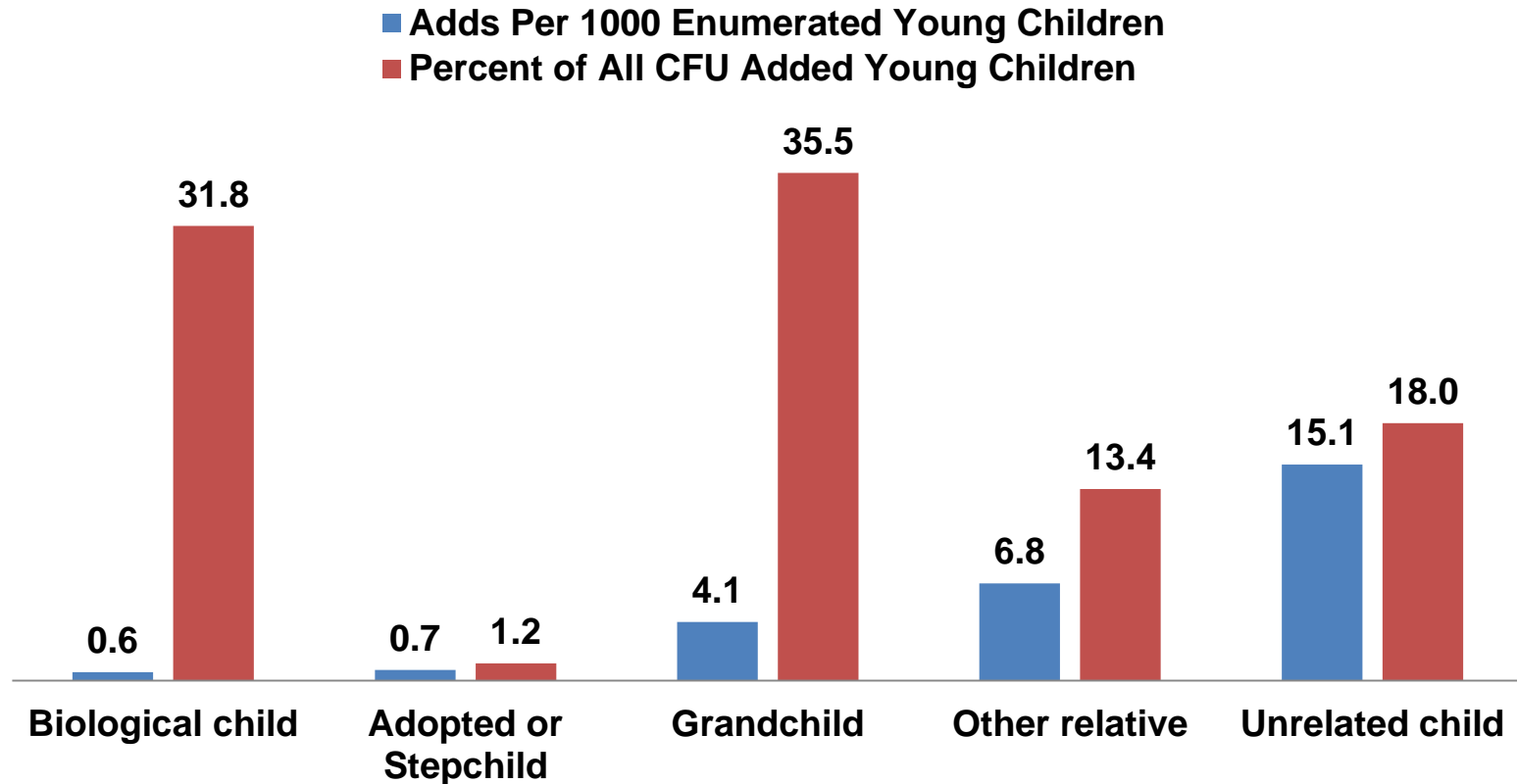
- The 2010 Census included a coverage followup (CFU) operation to improve the accuracy of the list of rostered household members
- CFU resulted in the addition of about 55,000 young children
- This project profiles the characteristics of the CFU-added young children



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## Census Coverage Followup

- 2010 Coverage Followup – Relationship of Added Young Children



Source: 2010 Census Coverage Followup

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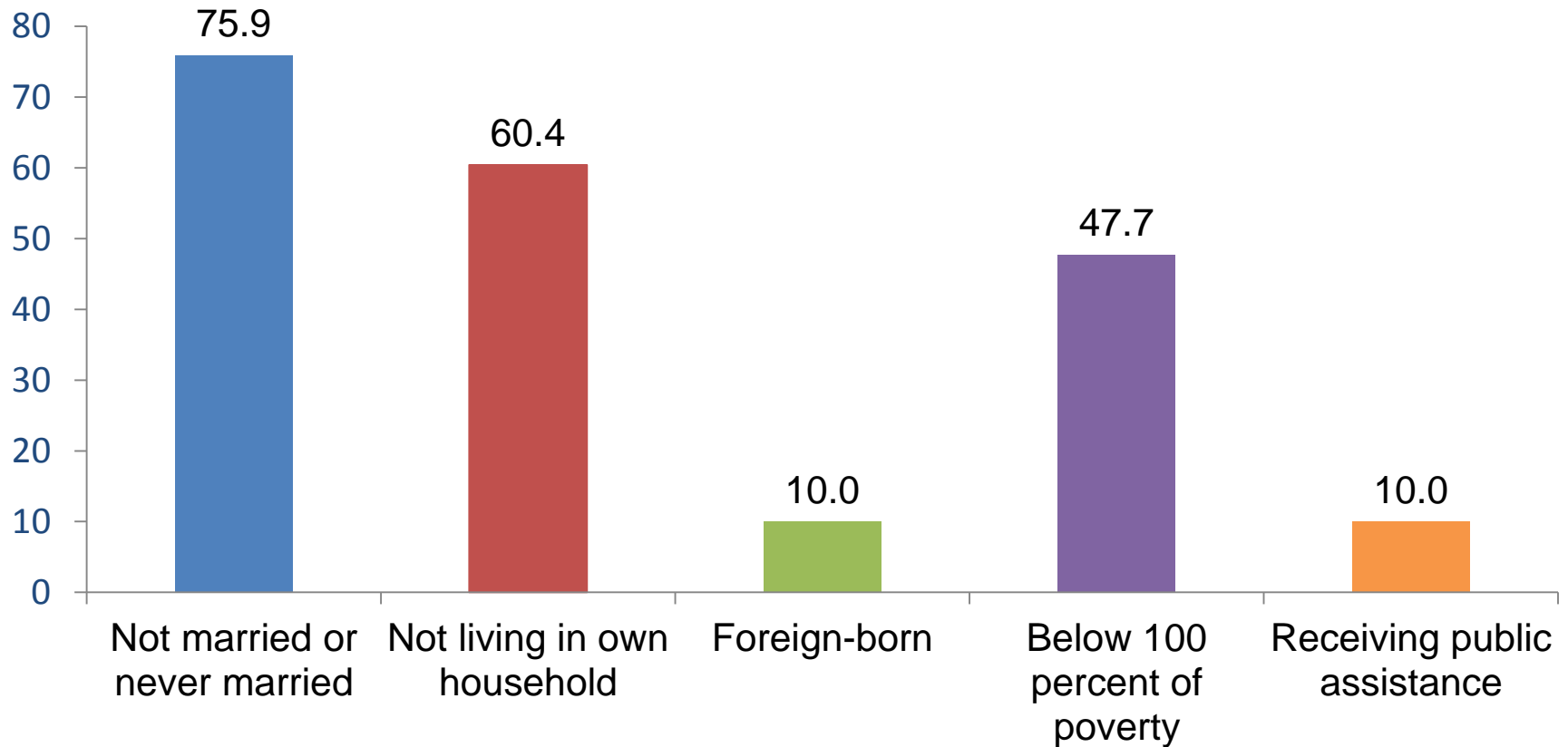
## Coverage of Young Mothers

- Background
  - Statistics Canada found that their census was more likely to exclude young children if the child's mother was young and unmarried
  - We wanted to explore the hypothesis that U.S. censuses and surveys miss young children because we also miss their young mothers
  - Compared estimates of births from vital statistics by maternal age with ACS estimates of women giving birth by age
- Preliminary Findings
  - The ACS undercounts young mothers
  - Undercount exists for all race and Hispanic origin groups
  - Undercount exists for both married and unmarried young mothers but unmarried young mothers are especially at risk

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## Coverage of Young Mothers

- Characteristics of young mothers, aged 15 to 22



Source: 2012 American Community Survey

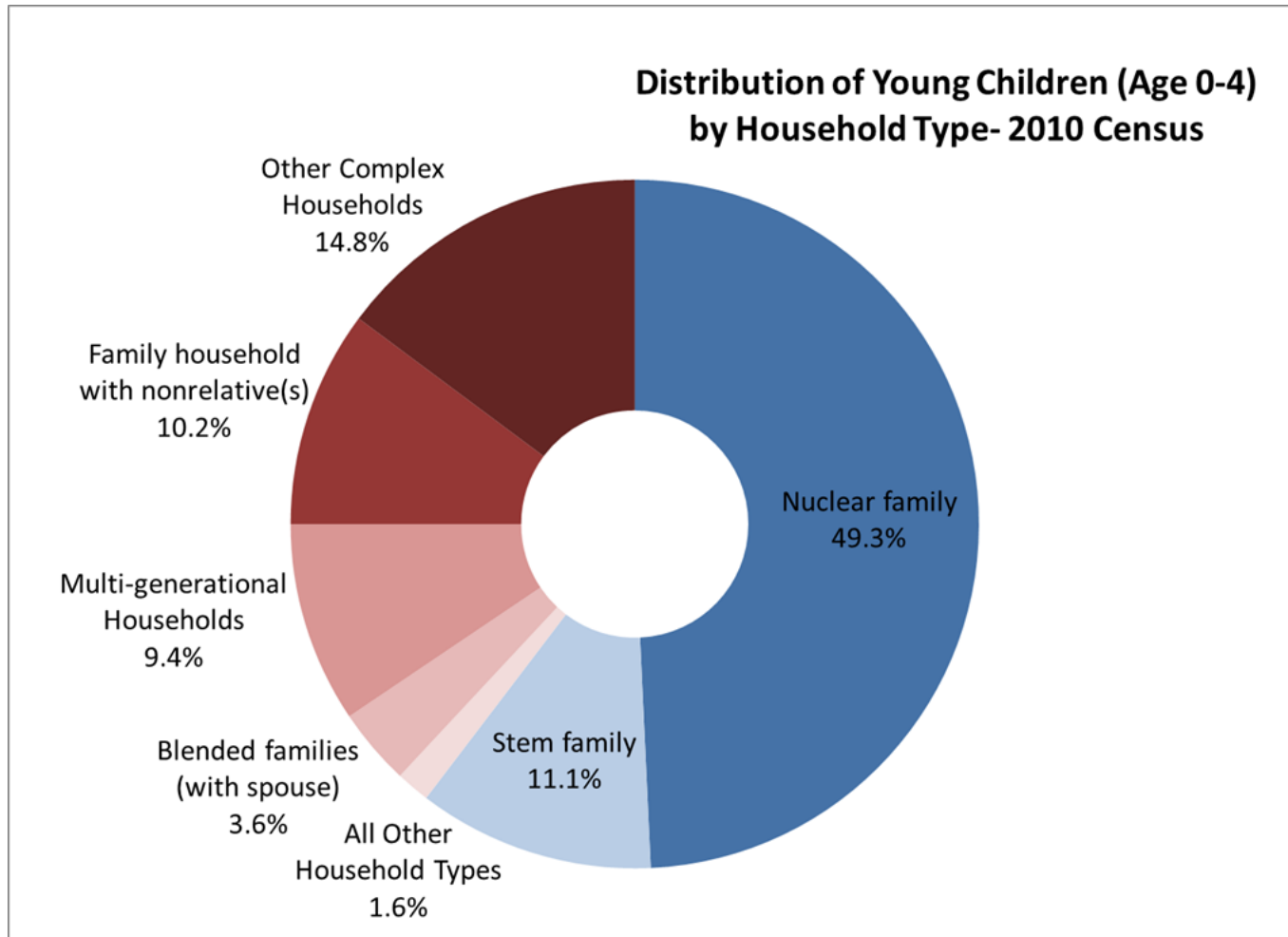
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## Complex Households

- Use data from the 2010 Census
- New household typology to classify wider range of living situations
- “Complex households” have more complicated structures (e.g., Blended families and multigenerational families)
- Provides a more detailed profile of the living situations of young children

# The Undercount of Young Children in the Decennial Census

## Complex Households



Source: 2010 Census tabulation

# The Undercount of Young Children in the Decennial Census

## Initial Conclusions

- Young children are more likely to be omitted from the census than persons in other age groups
- Multiple sources of error - Frame, whole household, within household
- Complex living situations of young children is a contributing factor
  - Unrelated children, grandchildren and other related children more at risk of omission
- Young children may be missed along with their young mothers

# The Undercount of Young Children in the Decennial Census

## Future Projects

- Administrative Records Matching
- Characteristics of Young Children and Young Mothers (using 2010 Census, CPS, and ACS data)
- Extension of CCM analysis to look at characteristics of housing unit omissions
- Subnational population estimates in conjunction with data from the Census Planning Database and ACS to understand which characteristics are most highly correlated with coverage error for young children

# The Undercount of Young Children in the Decennial Census

## Opportunities for Improvement

- Potential opportunities for improvement in the 2020 Census
  - Work with communications contractor to focus advertising on key audiences, such as young mothers and grandparents
  - Focus on partnership efforts with advocacy groups and local organizations to get the word out
  - Statistics in schools
  - Enhance the Census Coverage Measurement program to better understand the extent and nature of the problem
  - Testing possibilities for future census tests



# The Undercount of Young Children in the Decennial Census

## Questions?

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